In the Claims

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended) A method of providing a low cost quantized nonlinear continuous coefficient curve scaler converting consistently spaced sampled input data into consistently spaced resultant scaled data comprising the steps of:

providing a quantized coefficient table representing an approximation of the nonlinear continuous curve, said table including a plurality of sets of n coefficients, each set of n coefficients summing to a normalization value;

applying said table in hardware to successively locate the sets of n coefficients in the table; and

applying the located set of n coefficients to n corresponding sampled input data via a scaling pipeline by summing the product of each of said n coefficients and said corresponding sampled input data to get resultant scaled data.

2. (Original) The method of Claim 1 wherein the nonlinear curve approximation in the table must remain symmetrical about its centerline.

3. (Canceled)

4. (Original) The method of Claim 1 wherein said applying step includes applying said table in hardware using a step counter to locate the coefficients in the table.

5. (Canceled)

6. (Currently Amended) The method of Claim 5 wherein said nonlinear curve is sin ~~(x)/x.~~ (x)/x.

7. (Original) The method of Claim 1 wherein said providing step includes generating said quantized coefficient table.

8 and 9. (Canceled)

10. A quantized nonlinear curve scaler comprising:

a series of latches for latching a stream of source data wherein the content of the latches is the source data elements;

a quantized coefficient table storing an approximation of the nonlinear continuous curve, said quantized coefficient table including a plurality of sets of n coefficients, each set of n coefficients summing to a normalization value;

a shift and add multiplier comprising a first adder and a shifter for shifting and adding contents of each latch by corresponding coefficients provided by ~~a~~ said quantized coefficient table ~~representing an approximation of a nonlinear continuous curve~~ to produce coefficient products of the source data elements; and

~~and~~ a second adder for summing coefficient products from the series of latches to provide the resultant data value.

11. (Canceled)

12. (New) The method of Claim 1 wherein:

said step of providing a quantized coefficient table provides each set of n coefficients having said normalization value of an integral power of 2; and

said step of providing quantized coefficient table provides each coefficient of each set of n coefficients being an integral factor of said normalization value.

13. (New) The quantized nonlinear curve scaler of Claim 10 wherein:

said nonlinear curve approximation in said quantized coefficient table is symmetrical about its centerline.

14. (New) The quantized nonlinear curve scaler of Claim 10 wherein:

said quantized coefficient table provides each set of n coefficients having said normalization value of an integral power of 2; and

said quantized coefficient table provides each coefficient of each set of n coefficients being an integral factor of said normalization value.